REMARKS

In the patent application, claims 1, 4-8 and 11-25 are pending. In the office action, claims 1, 4-6, 8, 11-15, 17 and 22-25 are rejected and claims 7, 16 and 18-21 are objected to but would be allowed if rewritten in independent form.

Applicant has amended claims 1 and 7 to add a word "light" before the "providing structure". No new matter has been introduced.

At section 5 of the office action, claims 1, 4-6, 8, 11-15 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Graham et al.* (U.S. Patent No. 7,099,553, hereafter referred to as *Graham*), in view of *Cok* (U.S. Patent No. 7,042, 444).

In rejecting those claims, the Examiner states that *Graham* discloses a method and apparatus for generating a sheet of light for use in detecting interruption of the light sheet. The Examiner admits that *Graham* fails to disclose using first and second light detecting structures to measure the reduced light intensity when the light sheet is partially blocked and calculating the location of the touching object based on the measured light intensity, but points to *Cok* for disclosing those features.

It is respectfully submitted that while *Cok* discloses measuring the light intensity and calculating the location of the touching object, neither *Cok* nor *Graham* discloses the feature that

the first light detecting structure is located adjacent to the second light providing structure and further away from the first light providing structure, and

the second light detecting structure is located behind the first light providing structure.

In *Cok*, light emitters 62 and sensors 64 are either arranged in different arrays (Figure 3a) or arranged in mixed arrays in an interleaving manner (Figure 3b). In another embodiment, *Cok* discloses an arrangement where sensors are located in the corners of the display 60 (Figure 3c).

In contrast, each of the light detecting structures of the claimed invention is located behind a light providing structure (see Figure 3).

For the above reasons, claims 1 and 8 are distinguishable over the cited *Graham* and *Cok* references.

As for claims 4-6, 11-15 and 22-25, they are dependent from claims 1 and 8 and recite features not recited in claims 1 and 8. For reasons regarding claims 1 and 8 above, claims 4-6, 11-15 and 22-25 are also distinguishable over the cited *Graham* and *Cok* references.

Furthermore, in rejecting claim 4, the Examiner states that *Graham* also discloses that the light providing structure comprises a plurality of substantially parallel plates having a plurality of interfaces between adjacent parallel plates to provide partially reflecting surfaces (Figures 3a-3c and col.3, lines 36-47; facets 14).

It is respectfully submitted that *Graham* discloses two input light sources (10a and 10b), each of which has a number of total internal reflection surfaces 14 arranged in a step-like manner (see Figure 3A). The steps are designed such that the depth (d_N) of the reflective surface 82 (see Figure 8B) varies with N (see Equation in col. 5) in order to control the amount of light blocked by the front facets and received by the subsequent facets (see Claim 1, col.3, lines 25-31; col.4, lines 49-53; col.5, lines 10-23). For example, the depth (d_N) of the reflective surface 82 varies such that d_1=0.030, d_{18}=0.084 and d_{30} = 0.188 mm. As such, any facet 14 is located higher than the preceding ones in order to receive a portion of the illuminating light. By altering the depth of each reflective surface in a regular manner, each facet 14 receives substantially the same amount of light. The resulting lamina is therefore substantially uniform (col.5, line 10-23)

In contrast, claim 1 has the limitation that the light providing structure has a plurality of partially reflecting surfaces to reflect the source beam, and claim 4 has the limitation that the light providing structure has a plurality substantially parallel plates having a plurality of interfaces between adjacent parallel plates in order to provide the partially reflecting surfaces. Because light is partially reflected as the source beam traverses the light providing structure along the longitudinal axis, the light intensity of the source beam is reduced by the partial reflection. Accordingly, the light intensity of light beams in the light sheet varies along the longitudinal axis (claim 1) and the resulting light sheet is uneven (Figure 4).

The claimed invention uses partially reflecting surfaces at the interfaces to reflect light, whereas *Graham* uses totally internal reflection facets or mirrors to reflect light. The claimed invention uses a light sheet wherein the intensity of the light beams in the light sheet varies along the longitudinal axis of the light providing structure. In *Graham*, the intensity of the light beams

in the light sheet is uniform. In *Cok*, the intensity of the light sheets is more or less uniform. Claims 1 and 4 are clearly distinguishable over *Graham*, in view of *Cok*.

At section 6, claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Graham*, in view of *Cok*, and further in view of *Graham et al.* (U.S. Patent No. 6,351,260, hereafter referred to as *Graham'260*). The Examiner cites *Graham'260* for disclosing a touch panel having a light detector for providing the signal; and a light pipe for receiving at least a part of the light sheet and conveying at least a part of the received light to the light detector.

It is respectfully submitted that claim 17 is dependent from claim 8 and recites features not recited in claim 8. For reasons regarding claim 8 above, claim 17 is also distinguishable over the cited *Graham*, *Cok* and *Graham'260* references.

At section 7, claims 7, 16 and 18-21 are objected to but would be allowable if rewritten in independent form.

CONCLUSION

Claims 1, 4-8 and 11-25 are allowable. Early allowance is earnestly solicited.

Respectfully submitted,

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